REMARKS

Applicant cancels claims 4, 6, 8-16, 19 and 21; therefore, claims 1, 3, 5, 7, 17, 18, 20 and 22-24 are all the claims pending in the application.

The Examiner cites a new reference, U.S. Patent No. 4,728,583 to Yamazaki et al. (Yamazaki) and rejects:

- claims 1, 3, 4 and 19-21 under 35 U.S.C. §102(b) as being anticipated by Yamazaki;
- claims 5-8 under 35 U.S.C. §103(a) as being unpatentable over Yamazaki in view of previously cited Yanagita;
- claims 9-12, 17, 18 and 22-24 under 35 U.S.C. §103(a) as being unpatentable over Yamazaki in view of previously cited O'Brien; and
- claims 13-16 under 35 U.S.C. §103(a) as being unpatentable over Yamazaki in view of Yanagita and further in view of O'Brien.

Also, the Examiner rejects claims 23 and 24 under 35 U.S.C. §112, first paragraph, as allegedly not being enabled by the specification.

Finally, the Examiner has not considered all of the references submitted with Applicant's IDS filed October 1, 2002 because allegedly the IDS does not include a concise explanation of relevance for those documents which are not in the English language.

With regard to the references listed in Applicant's IDS which were not considered by the Examiner, the concise explanation requirement under 37 C.F.R. § 1.98(a)(3) for these references has indeed been met because (as indicated in the IDS submission) these references are described in Applicant's specification (MPEP 609(III)(A(3)). Thus, he Examiner is respectfully requested to consider these references accordingly and provide an initialed Form PTO-1449. Further, while not required, in order to facilitate the Examiner's review of these references, Applicant provides herewith English language translations of portions of these references.

With regard to the §112, first paragraph, rejection, Applicant respectfully traverses this rejection as follows. Claims 23 and 24 recite "film thickness of ... 100μm or more." Contrary to the Examiner's analysis, while Applicant's original disclosure states that "thickness of from 200 to 1,000μm is preferable," it also describes film thickness of "100μm or more" (see Applicant's specification, page 11). Thus, claims 23 and 24 are clearly enabled by Applicant's original disclosure, and the Examiner's rejection should be withdrawn (*see* MPEP 2163.05 (III), "[w]ith respect to changing numerical range limitations, the analysis must take into account which ranges one skilled in the art would consider inherently supported by the discussion in the original disclosure").

Applicant amends claim 1 to include the limitations of claim 9, rewrites claims 17, 18 and 22 in independent form including the limitations of the original claim 1, and cancels claims 4, 6 and 8-16, 19 and 21. Applicant submits that the amendment to claim 1 does not narrow the scope of claim 1 beyond that of the original claim 9. On the other hand, the amendments to claims 17, 18 and 22 do not narrow the scope of these claim beyond those of the original claims 17, 18 and 22, but merely presents them in independent form. No estoppel is created.

Applicant respectfully traverses the Examiner's prior art rejections as follows.

With regard to independent claims 1 and 22-24, the Examiner acknowledges that Yamazaki and Yanagita do not disclose the claimed relational expression between "gap A" and "film thickness B", and relies on O'Brien to supply this feature.

As explained in great detail in Applicant's previous Amendments filed October 15, 2001 and May 31, 2002, the Examiner's analysis of O'Brien is incorrect.

In particular, O'Brien's distance "+/-d" does not represent the distance from the tip of the drawdown die 24 (i.e., a coater) to the web 12 (i.e., a support), instead distance "d" simply represents the amount by which drawdown die 24 must be adjusted by moving the drawdown die along the slot axis 32, as clearly shown in O'Brien's Fig. 3. In fact, O'Brien does not disclose any specific relationship between film thickness and the distance between discharge opening of its extrusion coating apparatus 10 and web 12. Therefore, O'Brien is incapable of teaching or suggesting the specific relationship between gap A and thickness B as defined in Applicant's claims 9-16, 23 and 24.

In addition, Applicant respectfully submits the following technical analysis.

If gap A is narrow, dust on a support, dust in a coating solution, lumps caused by partial drying of a coating solution, and the like are likely to be trapped at the edge of a coater, thus easily causing coating streaks. Further, because the coating solution is disposed on a base immediately after discharge, the rate of the edge portion being expanded to the outside becomes small, hence the edge portion is likely to swell.

On the other hand, if gap A is wide, the amount of air accompanying a base increases, and it becomes difficult to expel the air with a thickness of a coating solution. In a case that the coating solution is heavy, so as to have a density of 2 or more, such as in a case of a coating solution containing fluorescent material, it becomes difficult to support the solution by a surface tension. Both of these phenomena cause a surface to lack uniformity and separation of the solution.

The fact that the optimum value of A is set depending on the relationship with B, is disclosed only in Applicant's own specification. Yamazaki, Yanagita, and O'Brien neither teach nor disclose such a relationship.

Therefore, Applicant's independent claims 1 and 22-24, as well as the dependent claims 3, 5, 7 and 20 (which incorporate all the novel and unobvious features of their base claim 1), are not anticipated by Yamazaki, and would not have been obvious from any reasonable combination of the prior art references cited by the Examiner.

With regard to claims 17 and 18, the Examiner acknowledges that Yamazaki does not disclose the claimed ranges of angles defining how the stimulable phosphor-containing coating solution is discharged, and relies on O'Brien to supply this feature.

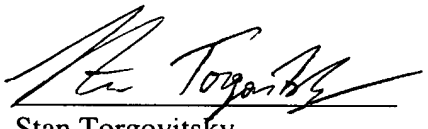
Contrary to the Examiner's analysis, O'Brien does not disclose or suggest the claimed ranges of angles. In fact, the Examiner acknowledges as much. Instead, the Examiner relies on O'Brien's disclosure for the general proposition that, in order to properly apply a coating solution, one skilled in the art would form an angle between the direction in which the coating solution is discharged and a direction orthogonal to the support. Thus, the Examiner concludes, Applicant's claimed ranges would have been obvious. However, such analysis is improper because it is not supported by any actual prior art disclosure, and finds basis only in Applicant's own disclosure. *See In re Lee*, 61 U.S.P.Q.2d 1430, 1436 (2002) ("it is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to use that which the inventor taught against its teacher [internal citation omitted]"); *see also, Id.* at 1437 ("[t]he board cannot rely on conclusory statements when dealing with particular

combinations of prior art and specific claims, but must set forth the rationale on which it relies"). Accordingly, the Examiner's rejection of claims 17 and 18 should be withdrawn.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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Date: April 2, 2003

APPENDIX

IN THE CLAIMS:

Claims 4, 6, 8-16, 19 and 21 have been canceled without prejudice or disclaimer.

Please amend the claims as follows:

1. (Twice Amended) A method of manufacturing a radiation image conversion panel in which a stimulable phosphor-containing coating solution, which contains at least a stimulable phosphor and a binder, is applied to a support by use of an extrusion coater such that the film thickness of a coated film of the stimulable phosphor-containing coating solution is in the range of from 300 to 800 μm,

wherein the stimulable phosphor-containing coating solution is applied such that a gap A (μm) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B (μm) of the coated film of the stimulable phosphor-containing coating solution satisfy the following relational expression

$0.75 \times B + 100 \leq A \leq 1.10 \times B + 130$.

17. (Amended`) A method of manufacturing a radiation image conversion panel [according to claim 1] in which a stimulable phosphor-containing coating solution, which contains at least a stimulable phosphor and a binder, is applied to a support by use of an extrusion coater such that the film thickness of a coated film of the stimulable phosphor-containing coating solution is 100 μm or more,

wherein the extrusion coater is disposed on a surface of a first plane, and the support is disposed on a roller whose axis is located parallel to a direction in which the stimulable phosphor-containing coating solution is discharged, the axis being disposed in a second plane

that is located above the discharge opening at the tip of the extrusion coater and parallel to the first plane, such that an angle formed by, on the one hand, the direction of the shortest distance between the tip discharge opening and, on the other hand, the roller and the second plane is from 0 to 30°.

18. (Twice Amended) A method of manufacturing a radiation image conversion panel [according to claim 1] in which a stimulable phosphor-containing coating solution, which contains at least a stimulable phosphor and a binder, is applied to a support by use of an extrusion coater such that the film thickness of a coated film of the stimulable phosphor-containing coating solution is 100 μm or more,

wherein the extrusion coater is disposed on a surface of a first plane, and the support is disposed on a roller whose axis is located parallel to a direction in which the stimulable phosphor-containing coating solution is discharged, the axis being disposed in a second plane that is located above the discharge opening at the tip of the extrusion coater and parallel to the first plane, such that an angle formed by the direction in which the stimulable phosphor-containing coating solution is discharged and the second plane is from 5 to 60°.

22. (Amended) A method of manufacturing a radiation image conversion panel [according to one of claim 1] in which a stimulable phosphor-containing coating solution, which contains at least a stimulable phosphor and a binder, is applied to a support by use of an extrusion coater such that the film thickness of a coated film of the stimulable phosphor-containing coating solution is 100 μm or more,

wherein the stimulable phosphor-containing coating solution is applied such that a gap A (μm) between a discharge opening at the tip of the extrusion coater and the support, and a film thickness B (μm) of the coated film of the stimulable phosphor-containing coating solution satisfy the following relational expression

$$0.80 \times B + 110 \leq A \leq 1.05 \times B + 130.$$

Japanese Patent Application Laid-Open (JP-A) No. 48-80487

Laid-Open Date: October 27, 1973

Application No. 47-11629

Application Date: January 31, 1972

Applicant: Matsushita Electric Industrial Co., Ltd.

Title: Thermoluminescence Dosimeter Element

(Translation from line 5 to 8, from line 10 to 13 of the first column, and from line 19 of the first column to line 5 of the second column on page 1)

[Claim]

A thermoluminescence dosimeter element comprising barium sulfate as a major component and 0.001 to 1 mol % of at least one selected from the group consisting of dysprosium, terbium and thulium.

[Detailed Description of the Invention]

It is an object of the present invention to provide a thermoluminescence dosimeter element having sensitivity to X-rays of 100 keV or less in particular and having practical characteristics such as accuracy and fading.

To obtain energy of incoming radiation, a thermoluminescence dosimeter with especially high sensitivity to particular energy is advantageously used rather than one having uniform energy characteristics.

The present invention provides a thermoluminescence element used for the above object. Namely, the thermoluminescence element of the present invention has barium sulfate as a major component of larger atomic number.

Japanese Patent Application Laid-Open (JP-A) No. 48-80489

Laid-Open Date: October 27, 1973

Application No. 47-11631

Application Date: January 31, 1972

Applicant: Matsushita Electric Industrial Co., Ltd.

Title: Thermoluminescence Dosimeter Element

(Translation from line 5 to 8, from line 10 to 13 of the first column, and from line 20 of the first column to line 6 of the second column on page 1)

[Claim]

A thermoluminescence dosimeter element comprising strontium sulfate as a major component and 0.001 to 1 mol % of at least one selected from the group consisting of thulium, terbium and dysprosium.

[Detailed Description of the Invention]

It is an object of the present invention to provide a thermoluminescence dosimeter element having sensitivity to X-rays of 100 keV or less in particular and having practical characteristics such as accuracy and fading.

To obtain energy of incoming radiation, a thermoluminescence dosimeter with especially high sensitivity to particular energy is advantageously used rather than one having uniform energy characteristics.

The present invention provides a thermoluminescence element used for the above object. Namely, the thermoluminescence element of the present invention has strontium sulfate ($SrSo_4$) as a major component of larger atomic number.

Japanese Patent Application Laid-Open (JP-A) No. 59-23400

Laid-Open Date: June 1, 1984

Application No. 54-71604

Application Date: June 7, 1979

Applicant: Fuji Photo Film Co., Ltd.

Title: Radiological Image Converting Panel

(Translation from line 28 to 35 of the second column on page 3, and from line 41 of the second column on page 3 to line 1 of the first column on page 4)

A radiological image converting panel of the present invention comprises a phosphor layer, in which photostimulable phosphor is dispersed in a binder. The radiological image converting panel is colored with a coloring material such that the average reflectance of the photostimulable phosphor at an excitation light wavelength area becomes smaller than the average reflectance of the photostimulable phosphor at an photostimulable light emission wavelength area.

Absorption of excitation light by the coloring agent suppresses diffusion of the excitation light in the radiological image converting panel, which diffusion is caused by irradiation in the phosphor layer, halation in a protective film, an under coat and a base. As a result, the sharpness of an image improves.